



**STATE OF HAWAII**  
**DEPARTMENT OF LAND AND NATURAL RESOURCES**  
**COMMISSION ON WATER RESOURCE MANAGEMENT**  
 Stream Protection and Management Branch

## **FIELD INVESTIGATION REPORT**

**FI2008111902 (East Maui, Palauhulu, high flow)**

<b>Date of Field Investigation:</b>	November 19, 2008	<b>Time (24-hour):</b>	0900 - 1200
<b>CWRM Staff:</b>	Ed Sakoda, Dean Uyeno, and Chui Ling Cheng		
<b>Individuals Present:</b>	DAR - Skippy Hau; Keanae - Gladys and Isaac Kanoa		
<b>Hydrologic Unit:</b>	Piinaau (6053)		
<b>Stream Name:</b>	Palauhulu Stream		
<b>Findings:</b>			
<p>At 0900, CWRM staff and Skippy arrived at the Hana Highway bridge that crosses Palauhulu Stream. CWRM staff observed the stream from the bridge and determined the flow velocities in the stream to be too high* for taking measurement. Staff then drove to the Keanae Valley Lookout. From the lookout, staff could view Keanae Flume, Palauhulu Stream, and the large fishpond before the stream flowed out to the ocean. During the field visit on Oct. 24, 2008 (refer to FI2008102403), Palauhulu Stream downstream from Keanae Flume was completely dry. No water was flowing into the large pond further downstream. At this field visit, the water level in Palauhulu Stream was approximately 5 feet high based on the concrete supports of the flume. Water was flowing into the large pond. Due to the heavy rain*, the high flows flushed debris and other contaminants out to the ocean, creating a large plume.</p> <p>At 0930 hours, CWRM staff and Skippy arrived at the Kanoa residence. Gladys Kanoa took staff to see the outflow of Keanae Flume, Palauhulu Stream, and its confluence with Piinaau Stream. She also gave staff a tour of her taro loi and the auwai system.</p> <p>Staff left the Kanoa residence at 1200 hours, and continued to document high flows in Wailuanui Stream. Refer to Field Investigation Report FI2008111903 (East Maui, Wailuanui, high flow) for more information.</p> <p>*Heavy rain fell on East Maui on the early morning of Nov. 18. USGS rain gage (Station 204916156083701) in West Wailuaiki near Keanae recorded 1.8 inches of rain on Nov 18, and 0.82 inches on Nov. 19. Most of the rain fell on the early morning of Nov. 18, between 12AM and 3:30AM. The nearest USGS active streamgage with real-time data is located on West Wailuaiki Stream (Station 16518000). At approximately 12:00AM on Nov. 18, discharge in West Wailuaiki Stream began to increase from 2.7CFS to a peak flow of 2,010 CFS at 9:45AM. By Nov. 26, streamflow returned to 3.7 CFS. Refer to FI2008111801 (East Maui, Palauhulu, high flow) for real-time rainfall and discharge graphs.</p>			
<b>Image Listing:</b> (Attach PDF of image contact sheet)			
<b>File Name:</b>	<b>Brief Description:</b>		
20081119021	Palauhulu Stream upstream from Hana Highway.		
20081119022	IIFS Site B on Palauhulu Stream below Hana Highway.		
20081119024	Palauhulu Stream downstream from Hana Highway.		
20081119030	Palauhulu Stream and Keanae Flume from Keanae Valley Lookout.		
20081119031	Mouth of Piinaau Stream.		
20081119032	Taro patches in Keanae Valley.		
20081119034	Plume at the mouth of Palauhulu Stream.		
20081119038	Outflow of Keanae Flume.		
20081119039	Outflow of Keanae Flume.		
20081119040	Outflow of Keanae Flume.		
20081119041	Outflow of Keanae Flume.		
20081119043	Piinaau Stream upstream from Keanae Flume.		
20081119045	Piinaau Stream downstream from its confluence with Palauhulu Stream.		
20081119047	Confluence of Piinaau and Palauhulu Stream downstream from Keanae Flume.		
20081119051	Piinaau Stream and the large pond further downstream.		

**GPS Listing:****Shapefiles:** (List file names of all shapefiles created and a brief description of each)**File Name:**

East\_Maui\_POI.shp

**Brief Description:**

Points of interest (POI) recorded with the GPS unit during the field visit. The file includes POI recorded from all the East Maui field investigations.

**Waypoints:** (List all waypoints in decimal degrees and provide a brief description of each)**WP No.**

26

**Latitude**

20.856333

**Longitude**

-156.146474

**Brief Description:**

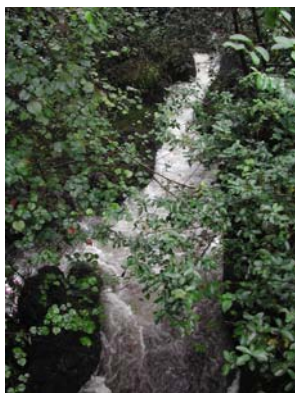
IIFS Site B on Palauhulu Stream at Hana Highway

**Attachments:****Brief Description:**

1. Image Contact Sheet

**Recommendations:**

## IMAGE CONTACT SHEET



**20081119021.JPG**



**20081119022.JPG**



**20081119024.JPG**



**20081119030.JPG**



**20081119031.JPG**



**20081119032.JPG**



**20081119034.JPG**



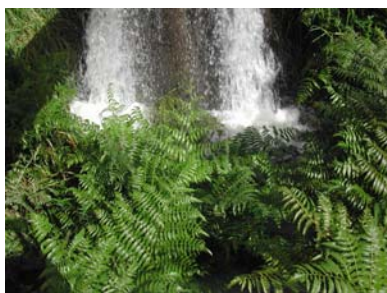
**20081119038.JPG**



**20081119039.JPG**



**20081119040.JPG**



**20081119041.JPG**



**20081119043.JPG**

## IMAGE CONTACT SHEET



**20081119045.JPG**



**20081119047.JPG**



**20081119051.JPG**